

Customer No.: 31561  
Application No.: 10/708,212  
Docket No.: 11987-US-PA

**AMENDMENT**

Please amend the application as indicated hereafter.

**In the Claims :**

1.(previously amended) A low visual noise pulse width modulation illumination control circuit for controlling the illumination of light-emitting diodes inside a liquid crystal display, comprising:

an illumination control pulse-generating unit, for receiving an illumination-adjusting signal and generating an illumination control pulse signal according to the illumination-adjusting signal, wherein a duty cycle of the illumination control pulse signal varies with time within a predetermined range; and

a DC/DC converter, coupled to the illumination control pulse-generating unit for driving the light-emitting diodes according to the illumination control pulse signal.

2. (original) The control circuit of claim 1, wherein the illumination control pulse-generating unit further comprises:

a noise generator, for generating a noise signal;

an analogue adder, coupled to the noise generator for receiving the illumination-adjusting signal and the noise signal to produce a noise signal loaded illumination-adjusting signal; and

a comparator, coupled to the analogue adder for comparing the noise signal loaded illumination-adjusting signal with a triangular wave to produce the illumination control pulse signal.

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3. (previously amended) The control circuit of claim 2, wherein the noise signals can be generated by amplifying a thermal noise produced by a resistor comprised in the noise generator.

4. (withdrawn) A low visual noise pulse width modulation illumination control circuit for controlling the illumination of light-emitting diodes inside a liquid crystal display, comprising:

an illumination control pulse-generating unit, for receiving an illumination-adjusting signal and generating an illumination control pulse signal according to the illumination-adjusting signal, wherein a frequency of the illumination control pulse signal varies with time within a predetermined range; and

a DC/DC converter, coupled to the illumination control pulse-generating unit for driving the light-emitting diodes according to the illumination control pulse signal.

5. (withdrawn) The control circuit of claim 4, wherein the illumination control pulse-generating unit is implemented using a microprocessor.

6. (cancelled)

7. (withdrawn ) A low visual noise pulse width modulation illumination control circuit for controlling the illumination of light-emitting diodes inside a liquid crystal display, comprising:

an illumination control pulse-generating unit, for receiving an illumination-adjusting signal and generating an illumination control pulse signal according to the illumination-adjusting signal, wherein a phase shift of the illumination control pulse signal varies with time within a predetermined range; and

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a DC/DC converter, coupled to the illumination control pulse-generating unit for driving the light-emitting diodes according to the illumination control pulse signal.

8. (previously presented) A low visual noise pulse width modulation illumination control circuit for controlling the illumination of light-emitting diodes inside a liquid crystal display, comprising:

an illumination control pulse-generating unit, for receiving an illumination-adjusting signal and generating an illumination control pulse signal according to the illumination-adjusting signal, wherein a phase shift, a frequency and a duty cycle of the illumination control pulse signal varies with time simultaneously within a predetermined range; and

a DC/DC converter, coupled to the illumination control pulse-generating unit for driving the light-emitting diodes according to the illumination control pulse signal.